

REMARKS

The Examiner is thanked for the examination of the application. However, in view of the foregoing amendments and the remarks that follow, the Examiner is respectfully requested to reconsider and withdraw the outstanding rejections.

Election:

Applicants hereby affirm the election previously made by telephone. Claims 97 - 100, 104, 108 - 112, and 114 are elected.

§112 objections:

Claim 109:

The Office Action alleges that there is no written description for claim 109. Claim 109 was introduced to specify that at least some chambers have a size that allows several tubes/holes to terminate in or to pass through these chambers. The claim reads on both the species according to Figure 3a (the non-elected species), and the species according to Figure 4 (the elected species). These Figures also provide the written description for the claim, since they both show a connector, wherein each chamber has at least one dimension orthogonal to the direction in which the tubes are intended to pass through the apertures that is larger than the diameter of the individual tubes.

In Fig. 3a, the chamber are recesses, where some of these recesses are arranged to receive more than one tube as specified in page 17, lines 25-29:

"Recesses 115 are each arranged to receive the end of two of tubes 30. Recess

120 are each arranged to receive the ends of groups of seven of tubes 30 (or six plus cane 15). Recess 125 are each arranged to receive the ends of groups of five of tubes 30". The recesses hence have a dimension in the orthogonal plane that is larger than the diameter of the tubes. The recesses 110 arranged to receive only one tube are hexagonal shaped and hence also have a dimension in the orthogonal plane that is larger than the diameter of the circular tube.

In Figure 4, each chamber clearly has a dimension in the orthogonal plane that is larger than the diameter of the tube, since several tubes terminate or pass through some of the chambers. However, the claimed invention is not limited to the preferred disclosed embodiments.

Accordingly, there is written description for claim 109.

Claims 111 and 112:

The Examiner's objection to this claim is based on a misinterpretation of the claim and the meaning of the terms "the base" and "chamber". In the Examiner's objection, it appears that the three chambers 210, 220, and 230 of Figure 4 are the bases themselves. This is not the case. Instead, the base of a chamber is a part of the chamber, i.e., the lower part, and the holes of the chamber are holes in said base.

The base of the top chamber 230 thus comprises one or more holes, where one of these holes provides the opening through which the tube terminating in chamber 230 enters the chamber. The holes are thus arranged to allow tubes of a preform to pass from the chamber to a neighboring chamber in said stack. .

However, the claimed invention is not limited to the preferred disclosed embodiments.

Accordingly, the section on page 18, line 7 - 14 of the specification of the PCT application thus provides written description for claims 111 and 112.

Claim 114:

Claim 114 has been amended in order to overcome the §112 objection.

First, the phrase “*each section including a chamber and a plurality of holes extending longitudinally ...*” has been amended according to “*each section ~~including comprising a chamber and a plurality of holes ...~~ and at least one hole, wherein the hole of a section is arranged to provide access to a chamber of that section for at least one tube extending longitudinally...*”. With this amendment it should be clear that the individual holes themselves do not extend longitudinally, i.e. that the holes are not going through the sections of a chamber, but that they provide access for the tubes extending longitudinally through the connector. Both the bottom sections and the top section comprise at least one hole arranged to provide access for at least one tube.

Second, the phrase “ports” has been deleted, and the part of claim 114 where it occurs has been amended according to “said passage connecting a chamber of the section to an external pressure controller so that the chambers of the different sections can be pressurized to a different pressure.” .

With these clarifications it should be evident that written description for claim 114 is provided by the specification on page 13, line 20 - 26, on page 18, lines 7 - 14, and in Figure 4 with accompanying description on page 18, lines 4 - 24.

However, the claimed invention is not limited to the preferred disclosed embodiments.

Antecedent basis for claim 99:

With the amendment of claim 99 clarifying that the scope of the claim is directed to a connector where apertures are arranged to receive ends of one or more of the tubes of a preform comprising a plurality of tubes, there is no problem with antecedent basis in this claim or dependent claims 104, 108, 109, 115 and 116.

In the event that the Examiner is not satisfied that the issues under 35 U.S.C. §112 have been adequately addressed, the Examiner is respectfully urged to telephone the undersigned attorney so that prosecution of the application may be expedited.

Art Rejections:

Dawes:

Claims 97 - 100, 104, and 108 - 110 have been rejected under 35 USC 102(e) as being allegedly unpatentable over US 2003/0230118, hereinafter *Dawes*. However, the claims are entitled to the filing date of GB 0209001.7, as explained below. GB 0209001.7 was filed on April 19, 2002, which precedes the filing date (June 12, 2002) of *Dawes*. Accordingly, *Dawes* is not prior art with respect to claims 97 - 100, 104, and 108 - 110.

Claim 97 is supported by claim 43 of GB0209001.7:

43. A connector for connecting a preform, which is for a microstructured fibre and which comprises a plurality of holes, to a pressure source, the connector comprising a plurality of elements arranged to mate with one or more of the holes, each element being connectable to a pressure source.

The differences in pending claim 97 and GB0209001.7 claim 43 are marked below:

97. A connector for connecting a preform, which is for a microstructured fibre and which preform comprises a plurality of holes, to a pressure source, the connector comprising a plurality of ~~elements~~ chambers, wherein each chamber is arranged to mate with one or more ~~of the holes of a preform~~, and wherein at least one of the chambers is arranged to mate with a plurality of holes of a preform, and each ~~element~~ chamber being connectable to a pressure source

The amendments "... which preform comprises a plurality of holes ...", "... wherein each chamber is arranged ...", and "one or more ~~of the holes of a preform~~" are only made to clarify the scope of the claim and do not correspond to a change in the scope of the claim.

The limitation of "elements" to be "chambers" is supported by page 13, lines 1-3 of the specification, wherein it is described that said elements may be chambers.

The part of claim 97 reading "*wherein at least one of the chambers is arranged to mate with a plurality of holes of a preform*", is supported by the embodiment illustrated in Figure 4 of the priority application (which is identical to Figure 4 of the international application), wherein chambers 210 and 220 both are arranged to mate with a plurality of holes (chamber 210 with two holes and chamber 220 with four holes).

Pending claim 97 is thus supported by the UK priority application GB0209001.7.

Dependent claims 98-100, 104, 108, and 109 have support in the following sections of GB0209001.7 (henceforth referred to as UK):

Pending claim 98 has support in UK claim 44 with the abovementioned amendment that the elements are chambers.

Pending claim 99 has support in UK page 14, lines 1-8.

Pending claim 100 has support in UK claim 46.

Pending claim 104 has support in UK claim 50 with the amendment "~~the~~ tubes of a preform connected to the connector are intended to pass through the apertures".

This amendment only serves to clarify the scope of the claim and does not present a limitation to the scope of the claim.

Pending claim 108 has support in UK page 13, 22-25.

UK page 17, first section provides the same support for pending claim 109 as the sections of the PCT application described in the part of "Response to §112 objections"- section relating to claim 109.

Cain:

Claims 111 - 112 have been rejected under 35 USC 102(e) as being allegedly unpatentable over US2003/0230118, hereinafter *Cain*

Cain describes a burner for producing a fiber preform as described in, e.g., col. 7, lines 22 - 29:

"FIGS. 5-7 illustrate a preferred burner construction for use with a multi-burner, gas-supplying manifold. In particular, burner 100 shown in these figures can be assembled and mounted on a gas-supplying manifold with a high degree of precision. The burner is thus particularly well-suited for use in OVD systems wherein multiple burners are employed in the production of preforms, with each burner depositing soot on only a portion of the preform".

In general, gas burners, such as the one disclosed by *Cain* are not adapted to mate with a preform. During the vapor deposition procedure for which the gas burners are optimized, it is highly advantageous to have a mating between the preform and the gas burner. As also described in *Cain*, col. 6, line 4, there is a burner to target distance when the gas burner is in operation. This distance is needed in order to have a proper deposition of the materials formed in the flame and in order to provide the required mixing of the gases which burns. The gas burners of *Cain* are thus not adapted to mate to a preform.

The gas burner according to *Cain* is therefore not a connector for connecting a preform to a pressure source. There is absolutely no disclosure in *Cain* of how the holes of a preform for a microstructured fiber could be arranged to mate with the gas burner of *Cain*.

Further, the parts of the gas burner referred to as chambers by the Examiner, i.e., 102, 104-107 are in fact a face block (102), and a back block (106) with a manifold plate (104) arranged in between these. The *Cain* components do not allow tubes of a preform to pass from the chamber to a neighboring chamber. The Examiner refers to fume tube 108, but that would not accommodate a plurality of tubes.

Independent claim 111 and dependent claim 112 are therefore not anticipated by *Cain*.

Roba:

Claim 114 has been rejected under 35 USC 102(e) as being allegedly unpatentable over US 2004/0261460, hereinafter *Roba*.

As described in the response to the previous office action, *Roba* discloses a gas burner for manufacturing a preform by vapor deposition. It does not disclose a connector for connecting the holes of a preform to pressure sources during the drawing of a fiber from said preform.

As set forth above with respect to *Cain*, gas burners, such as the one disclosed by *Cain* and *Roba* are not adapted to mate with a preform. During the vapor deposition procedure for which the gas burners are optimized, it is highly advantageous to have a mating between the preform and the gas burner. Specifically, *Roba* does not teach or suggest a connector for connecting a preform. Instead, *Roba* discloses a burner for manufacturing a glass optical fiber preform by vapor deposition. *Roba* does not teach or suggest a connector having a plurality of chambers wherein at least one of the chambers is arranged to mate with a plurality of holes in a preform. In *Roba*, each section of the burner connects to one tube that extends through the burner. Accordingly, claim 114 is also patentable over *Roba*.

Accordingly, in view of the foregoing amendments and remarks, the Examiner is respectfully requested to reconsider and withdraw the outstanding rejections.

New claims 115 - 117 have been added to further define the protection to which Applicants are entitled. The new claims are allowable at least for the reasons set forth above with respect to the independent claims from which they depend.

In the event that there are any questions concerning this Amendment, or the application in general, the Examiner is respectfully urged to telephone the undersigned attorney so that prosecution of the application may be expedited.

Respectfully submitted,

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